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CAREER SIMULATION FOR ADOLESCENT PUPILS. FINAL REPORT.

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DESCRIPTORS- *STUDENT ATTITUDES, *VOCATIONAL COUNSELING, GRADE 6, GRADE 8, RESEARCH PROJECTS, *CAREER PLANNING, *EDUCATIONAL GAMES, SIMULATION,

THE PURPOSE OF THIS STUDY WAS TO ASSESS STUDENT ACQUISITION OF KNOWLEDGE ABOUT VOCATIONS AFTER PARTICIPATION IN A CAREER SIMULATION GAME AND TO DETERMINE ATTITUDINAL CHANGE TOWARD VOCATIONAL CONCEPTS. DATA WAS COLLECTED THROUGH A PRE-TEST AND A POST-TEST. A SAMPLE OF SIXTH- AND EIGHT-GRADE STUDENTS WAS DRAWN FOR THE TREATMENT AND THE CONTROL GROUPS. THE TREATMENT GROUPS PARTICIPATED IN THE CAREER SIMULATION GAME WHILE THE CONTROL GROUPS RECEIVED THE USUAL CURRICULUM PROGRAM. NO STATISTICALLY SIGNIFICANT DIFFERENCES WERE FOUND BETWEEN THE GROUPS ON A 10-ITEM QUESTIONNAIRE ON VOCATIONAL INSIGHTFULNESS. A GENERAL TREND TO INCREASE HOURS OF STUDY ON THE POST-TESTS WAS EVIDENT FOR THE TREATMENT GROUPS; ALTHOUGH NO STATISTICALLY SIGNIFICANT PATTERNS WERE FOUND. THE NEGATIVE RESULTS MAY BE DUE TO INSENSITIVE INSTRUMENTATION. THE INVESTIGATORS BELIEVE THAT FURTHER DEVELOPMENTAL WORK IS INDICATED TO EXPLORE SIMULATION AS A METHOD OF TEACHING CAREER DEVELOPMENT PRINCIPLES TO ADOLESCENTS. (FS)

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The original Life Career Game was developed by Dr. Sarane Boocock of Johns Hopkins University. Dr. Boocock granted permission to adapt the game and she served as a consultant to the project. The major consultants to the project included Dr. Richard Rosen, Abt Associates, and Dr. William Michael, University of California at Santa Barbara. The project was conducted in cooperation with the Cajon Valley School District, Dr. M. Ted Dixon, Superintendent, and Lakeside Union School District, Mr. M. R. Kneale, Superintendent.

CAREER SIMULATION FOR ADOLESCENT PUPILS

PROJECT SUMMARY

Introduction

This project represents a continuation of developmental work (Project HRD-131-65) that was initiated during the 1965-66 school year with partial funding under the provisions of Section 4(c) of the Vocational Education Act.

Career simulation in the Life Career Game provides students with an opportunity to try out their decision-making approaches on a fictitious student in order to assess the consequences of their planning in the school achievement and vocational development of that student. Alternative approaches used by other students are discussed to consider some of the advantages and disadvantages of the various plans. In this way, students gain experience in using educational and vocational information in the decision-making process.

The Life Career Game serves as an introduction to junior high school and to senior high school: to the tasks of allocating time; to the multiplicity of occupations; to course requirements for high school graduation and college admission; to types of part-time jobs available to students; to course selection; and to the relationship of courses, study, and grades. Many other concepts are introduced which foster the early adolescent's introduction to the world of work.

Problem

The Life Career Game is one way of simulating the adolescent's environment and allows for the development of decision-making skills as they relate to educational and vocational planning. The purpose of this project was to examine the effectiveness of simulated environments to foster educational and vocational development of adolescents.

Hypotheses

H_1 Students participating in Life Career Game will acquire more knowledge and insight than the Control group.

H_2 Students participating in Life Career Game will have stronger and more favorable attitudes toward vocational concepts than the Control group.

H_3 Students participating in Life Career Game will acquire greater knowledge and insight than students participating in the Planning Your Future unit.

H_4 Students participating in Life Career Game will develop stronger and more favorable attitudes than students participating in the Planning Your Future unit.

Purpose

This project was conducted in two phases: a development phase and an evaluation phase.

A. The first purpose of the project was to develop a set of simulated career experiences for sixth and eighth grade pupils designed to:

   1. Acquaint pupils with the decisions they are likely to encounter in high school.

   2. Acquaint pupils with probable consequences of decisions made in high school.

   3. Acquaint pupils with the values of our American culture as related to the educational and vocational process.

   4. Give pupils simulated experiences in making career decisions.

B. The second purpose was to field test and evaluate the revised Life Career Game in selected sixth and eighth grade classrooms.

Objectives

1. To increase the career planning knowledge and insight of the sixth and eighth grade pupils.

2. To have the student develop strong favorable attitudes toward vocational concepts.

3. To determine whether greater knowledge and insight scores and stronger favorable attitude responses are obtained from Life Career Game or Planning Your Future materials.

Procedures

Since the purpose of this study was to assess the acquisition of knowledge about vocations and to determine attitudinal change toward vocational concepts, data was collected through a pretest and a posttest. The pretest was administered to the study sample of students before they began experiences in career development. A posttest was administered at the conclusion of their career development experience. The difference between the pretests and the posttests was said to be the change brought about by the students' interaction with materials and teachers in the period between the two testings.

A sample of sixth and eighth grade students was drawn for the treatment and the control groups. Some of the data reported herein are based on a sub-sample of the student population. Three school districts and fifteen classrooms of pupils participated in the study. Six classes of sixth grade students and nine classes of eighth grade students, totaling approximately 450 students, were involved in the evaluation phase of the study.

Development of Materials

The career simulation materials from the research project conducted during the 1965-66 school year were revised and refined to make the exercises practical for use with sixth and eighth grade students. The teacher's manual was revised extensively and the major refinements included changes in the profiles or scenarios and in the yearend summary questions. To increase the interest level and serve as a motivator, pictures were used to illustrate each of the four eight-page profiles. Immediate involvement and interest through some identification with a fictitious person was a motivation for learning as well as a basic feature of the game.

Control/Treatment Plan

Control groups at both the sixth and eighth grade levels received the usual curriculum program at their respective levels. The three sixth grade Treatment groups and the three eighth grade Treatment-One groups were given the special career simulation materials adapted to their respective levels. The three eighth grade Treatment-Two groups were given the Planning Your Future unit on career development. Pretest and posttest treatment criterion measures were administered to all groups.

Measuring Instruments

Three basic instruments were used in the collection of data.

1. A 10-item questionnaire on vocational insightfulness adapted from the "Vocational Development Inventory" originally constructed by John O. Crites at the University of Iowa.

2. A three-item situational test which asks the subject to distribute a five-hour after-school time block among the three categories of leisure-time, job or chore activity, and studying and homework.

3. An adaptation of Osgood's semantic differential scale devised to obtain ratings on various concepts.

Results and Discussion

A. The 10-item questionnaire on vocational insightfulness

Surprisingly, no statistical significant differences emerged in either the sixth or eight grade groups.

B. Distribution of five hours

Though no statistical significant patterns emerged, a general trend to increase hours of study on the posttests was evident for the Treatment groups.

C. Concept analysis using the semantic differential scaling technique

In many ways, this instrument was both fruitful and frustrating at the

same time. This instrument yielded the only important statistical significant differences between the various comparison groups; yet these differences tended to defy interpretation.

In terms of the four hypotheses developed for this research, none were supported at a statistical significant level. While this may support the negative finding of no differences between the Treatment or Control groups on the criteria selected, the principal investigators feel that the rival hypotheses of insensitive instrumentation is equally likely. The Life Career Game appears to be more enjoyable and stimulating than either the Planning Your Future or the Control group treatments.

Conclusions and Recommendations

In summary, this study attempted to measure differences in knowledge and attitudes among sixth and eighth grade students as a result of their participation, or lack of participation with respect to the Control groups, in a career simulation game. No educational significant differences of a clear and direct nature were found. The principal investigators feel that further developmental work is indicated to explore simulation as a method of teaching career development principles to adolescent age pupils. The high interest that the simulation obviously evokes in most pupils should be exploitable for their educational and vocational development.

CHAPTER I

INTRODUCTION

In the foreword of the teacher's manual for the Life Career Game, Dr. Cecil D. Hardesty, Superintendent of Schools, San Diego County stated:

> At a time when a commitment to education on the part of young people is essential to their becoming gainfully employed, it is necessary for our schools to become actively involved with youth in career development planning. Simulation as utilized in the Life Career Game is a way of aiding students to develop self-awareness, acquire knowledge about educational programs as they relate to vocational opportunities, and improve their skills in decision-making about school and work.(6)

Career development is a learning process which the school should foster by providing planned activities appropriate for students at various levels of vocational readiness. In its conventional role of transmitting the culture, prescribing courses, and requiring the major time commitment of students, the school is involved to some extent in career planning with youth. However, in an increasing complex society it seems necessary that improved methods be developed for aiding young people in their career development.

Simulation in the Life Career Game is one approach to this problem. As students learn the relationship of school work to occupational work, they must expand their knowledge of the wide variety of jobs in our society and become aware of their own educational and vocational potentialities with some understanding of how these potentialities might be fulfilled. In this learning process students arrive at certain decision points during their junior and senior high school years. For example, they must select courses and they must allocate time for study, for leisure, for part-time work, for school-related activities, for living within the family, and for association with their peers. Each such choice involves the individual in a decision-making process which requires him to think of the kind of person he is and the kind of person he wants to be, to consider alternative choices, and to judge the reality of the situation.

Simulation in the Life Career Game provides students with an opportunity to try out their decision-making approaches on a fictitious student in order to assess the consequences of their planning in the school achievement and vocational development of that student. Alternative approaches used by other students are discussed to consider some of the advantages and disadvantages of the various plans. In this way students gain experience in using educational and vocational information in the decision-making process.

The simulated environment of the junior and senior high school years brings the future into the present in a compelling fashion for sixth and eighth grade students. The purposes of the Life Career Game are: (1) to give students an understanding of the school program provided in junior and senior high schools, (2) to provide experience in making choices, (3)

to experience consequences without being involved directly, (4) to give opportunities to try alternative decision-making approaches and discover the concomitant consequences, (5) to bring to the student an awareness of vocational potential and how it can be fulfilled through work in school, and (6) to encourage thought and discussion on decision-making and planning.

BRIEF HISTORY OF DEPARTMENTAL PROGRAMS IN CAREER PLANNING

During the past several years of developing materials and procedures for nurturing career development, the Department of Education has supported countywide Career Conference programs which were sponsored in cooperation with local districts. The Department of Education developed a course unit entitled Planning Your Future in partnership with regional districts serving fifty thousand pupils, and initiated, in cooperation with VEA and ESEA, Project VIEW for disseminating information on careers requiring a less than baccalaureate level of education. The Planning Your Future materials are being used in several districts and Project VIEW is in most high schools in the county.

The fourth major venture in career planning is the Career Simulation with Adolescents project. Now in its second year, this simulation project was developed for use with sixth and eighth grade students. The idea that children learn by playing games is not new, but the idea that games can be used in the classroom is somewhat innovative. Critical to career planning is the way in which information is used by students in the decision-making process. Many students who are classified as indecisive may be impotent to act because of a lack of awareness of alternatives. Immediate applicability of information as well as relevance to the future is important if interest is to be maintained to facilitate the learning experience. Career games offer possibility of creating the high interest and high involvement of students that make learning an enjoyable experience.

Problem

In most junior high schools some provision is made for assisting the students with career development. This may be in the form of conferences with a counselor or as a unit in English or social studies. The Life Career Game is one way of simulating the adolescent's environment and allows for the development of decision-making skills as they relate to educational and vocational planning. The purpose of this project is to examine the usefulness of simulated environments to foster educational and vocational development of adolescents.

Hypotheses

H_1 Students participating in Life Career Game will acquire more knowledge and insight than the Control group.

H_2 Students participating in Life Career Game will have stronger and more favorable attitudes toward vocational concepts than the Control group.

H_3 Students participating in Life Career Game will acquire greater knowledge and insight than students participating in the Planning Your Future unit.

H_4 Students participating in Life Career Game will develop stronger and more favorable attitudes than students participating in the Planning Your Future unit.

A basic assumption is that the early adolescents are in a formative though exploratory stage in vocational development; hence, instruction in career development would provide a meaningful bridging of their educational experience and the world of work. If one believes that the basic material of guidance is composed of information about the student such as his likes and dislikes, his interests, his abilities, his values, and the information he has about the opportunities potentially or presumably open to him, then simulation facilitates the acquisition of this information. Examination of the environment of the student at this stage of development indicates that the student's greatest resource is time. Simulation it is felt provides the vehicle through which the student can gain the information about himself and about his environment essential for deciding how to allocate his valuable resource, time.

The student's environment as conceived in the simulation project consists of school and the curriculum, the leisure time of evenings and weekends, and the possibility of part-time employment. The examination of self comes about through developing awareness of preferences for certain subjects, noting one's strengths and weaknesses as they relate to ability, citing special interest areas, and of considering other personal characteristics.

Review of Literature

In the spring of 1966 most of the work being done with simulation was at the college level. Within a year the activity has increased measureably in elementary and secondary schools. This review of literature will focus on the activities at elementary and secondary school levels.

The current project represents continued exploration of the use of simulation which was funded in an earlier project (HRD-131-65)VEA 4(c). The earlier project explored the use of simulation with sixth grade pupils with the expressed purpose of changing attitudes toward education and the world of work and increasing their knowledge about the career process. The study revealed no significant differences between the treatment and control groups on the Vocational Development Inventory and the Vocational Information Achievement Test (7).

In a newsletter to the university faculty, Dr. Stanford Ericksen, Director, Research and Teaching, University of Michigan wrote:

> At whatever level of complexity, formal simulation and decision-making games fit quite comfortably alongside the many other means that teachers use to represent the real world to their classroom-bound students. There can

> be no serious opposition to the idea of simulation; the real issue rests with the educational relevance of a particular simulation procedure as used in the classroom. For the most part, the teacher will need to develop simulation in the form appropriate to his own course. (5)

Appropriateness to a course or to an activity in which the school engages through counselors or teachers was carefully considered when the sixth and eighth grade material was developed. Substantial evidence shows that career development is a part of the curriculum in most junior and senior high schools.

The use of games with junior high school youth as the vehicle to introduce vocational and educational planning seems to dovetail with what we know about the development of the adolescent.

Peter Wolff, editorial director for the ESI Social Studies Curriculum Program, in Occasional Monograph #9 wrote:

> Games are quite useful as teaching devices perhaps most so at the junior high school level. In this age group the competitive spirit is strong, the ability to understand rules is good and the quasi-sophistication of the high school has not yet set in. The utility of games devices vary largely from the great motivating force which they exert on students. (9).

With financial assistance from the U. S. Office of Education, the Nova schools in Ft. Lauderdale, Florida, through the Academic Games Project and the Ford Foundation are implementing their tools into the entire curriculum of the twelve-year nongraded school system. The Nova project is a three-stage effort: (1) to integrate academic games into the entire curriculum and organize competition at the classroom, intramural, and inter-scholastic levels; (2) to evaluate the effects of the games on comprehension, recall, analysis of gifted students who lacked proper motivation; (3) to spread the academic games concept through course outlines, teacher's guides, instructional films, inservice training of teachers and public competition.

Robert Allen, Director of the Nova Games Project, sees numerous benefits derived from planned games in the curriculum. Allen rates attitude improvement as the most important benefit. "Striking process as a fact, a statistic doesn't mean much to me," he has said, "but attitude does." Allen has been quoted as saying that "a smile on a child's face is more concrete than a statistic." Among the benefits derived from the Nova Games, as reported by John Egerton of the Southern Education Report (4), was widespread participation and involvement of students, strengthened motivation to work together in teams, improvements in understanding and retention, and healthier student attitudes toward their teachers and classmates, their studies, and themselves.

Dr. Clark Abt of Abt Associates in a monograph wrote that:

> Educational games use the student's way of viewing things. For elementary school children, educational games

> translate the child's primarily concrete, intuitive thinking into a sequence of dramatized possibilities that expand his awareness of hypothetical alternatives and fundamental relations .... One of the main problems for secondary school students is their sense of the relevance of what they are learning to their future expectations .... Educational games that simulate reality can present the great problems of contemporary society on a level of specific human action that directly relates the student's decisions to the larger world .... The clearest advantage of educational gaming is increased student motivation. (1)

Course selection and budgeting time for study and leisure as called for in the Life Career Game are relevant to the adolescent's world. Exploring alternative courses of action is natural for the students as they choose for a fictitious person and learn from the concomitant consequences.

James Coleman and Sarane Boocock at Johns Hopkins University have developed many games applicable to the classroom. The Life Career Game used in this study was modified from a game originally developed by Dr. Boocock. In an article entitled, In Defense of Games, Dr. James Coleman wrote:

> The informal games of young children appear to be crucial means for learning about life and experimenting with life. One of the most perceptive students of the social and intellectual development of young children, Jean Piaget, has observed this development in the simple games children play, such as a game of marbles. It appears that for children games are more than a caricature of life. They are an introduction to life - an introduction to the idea of rules, which are imposed on all alike; an introduction to the idea of playing under a different set of rules, that is the idea of different roles; an introduction to the idea of aiding another person and of knowing that one can expect aid from another; an introduction to the idea of working toward a collective goal and investing one's self in a collectivity larger than himself. It appears that games serve, for the young child, all these functions as an introduction to life. (3)

The Life Career Game serves as an introduction to junior high school and to senior high school for sixth and eighth grade students, an introduction to the tasks of allocating time, an introduction to the multiplicity of occupations, an introduction to course requirements for high school graduation and college admission, an introduction to types of part-time jobs available to students, an introduction to course selection, and an introduction to the relationship of courses, study, and grades. Many other concepts are introduced which foster the early adolescent's introduction to the world of work.

The Board of Cooperative Educational Services in northern Westchester County, New York, has been conducting research of computer-based games with simulated environments since 1962. Dr. Richard Wing reported

findings of two computer-based economics games for sixth graders in a recent article. Dr. Wing concluded that:

> The game used in this experiment needs a great deal of further testing and revision. At the same time we feel that our findings so far offer encouragement for further effort. That is, insofar as our experience goes, computer-based games can be used in practice even with sixth graders; they do teach as well as conventional methods; and they seem considerably more effective than conventional methods where the time investment of the student is taken into consideration. (8)

Refinement of the Life Career Game to sixth and eighth grades has been an objective of this project. Especially noteworthy are the pictorial profiles which build involvement through identification and the yearend summary questions which serve to reinforce learnings.

A review of six research studies by Dr. Cleo H. Cherryholmes found that:

> Evaluation of six studies suggests that the case for learning and attitude change may not be as strong as has been claimed .... Simulation does produce more student motivation and interest, but there are no consistent or significant differences in learning retention, critical thinking, or attitude change .... The rather disappointing findings are somewhat less surprising when viewed in the context of research on teaching generally. Educational research on social and political education is quite limited (Metcalf) and what results there are often ambiguous or report no significant difference between new or experimental teaching methods and traditional methods (McKeahie). One serious weakness in much evaluation research has to do with the criterion problem - i.e., specifying what a given set of materials is supposed to teach and devising tests to measure this accurately. It is plausible to assume that simulations produce effects that have not been specified and measured in the six studies analyzed here.(2)

An example of this report of no significant difference between new or experimental teaching methods and traditional methods is the National First Grade Reading Study which was composed of twenty-seven individual studies. The results showed that it is the teacher who makes the difference. No one method was shown to be consistently and significantly superior to any other method. One might speculate that it is also the teacher or the counselor who makes the difference with the Life Career Game.

Locally, the Western Behavioral Sciences Institute has developed and field tested several games with students in junior and senior high school. Analysis of data for a study using the game CRISIS is now underway. The San Jose Unified School District in cooperation with Education Services of

Lockheed is exploring simulation as a tool in the curriculum. Results of their research have not been reported at this writing.

This review of the literature has intentionally not attempted to include all simulation activities at all educational levels, but rather to focus on some of the elementary and secondary school projects using simulation. The usefulness of simulation as a technique for classroom use has been reported by several researchers. That simulation is a high interest and motivational device seems to have considerable support. That most studies report no significant difference over traditional or conventional approaches, on first blush, is disappointing but it seems to be a documented fact that many of the new or experimental teaching methods show no significant differences over traditional methods.

Purpose

This project was conducted in two phases: a development phase and an evaluation phase.

A. The first purpose of the project was to develop a set of simulated career experiences for sixth and eighth grade pupils designed to:

   1. Acquaint pupils with the decisions they are likely to encounter in high school.

   2. Acquaint pupils with probable consequences of decisions made in high school.

   3. Acquaint pupils with the values of our American culture as related to the educational and vocational process.

   4. Give pupils simulated experiences in making career decisions.

B. The second purpose was to field test and evaluate the revised Life Career Game in selected sixth and eighth grade classrooms.

Specific Objectives

1. To increase the career planning knowledge and insight of the sixth and eighth grade pupils.

2. To have the student develop strong favorable attitudes toward vocational concepts.

3. To determine whether greater knowledge and insight scores and stronger favorable attitude responses are obtained from simulation or Planning Your Future.

CHAPTER II

DESIGN AND METHODOLOGY

Procedure

Since the purpose of this study was to assess the acquisition of knowledge about vocations and to determine attitudinal change toward vocational concepts, data were collected through a pretest and a posttest. The pretest was administered to the study sample of students before they began experiences in career development. A posttest was administered at the conclusion of their career development experience. The difference between the pretests and posttests was said to be the change brought about by the students' interaction with materials and teachers in the period between the two testings.

A sample of sixth and eighth grade students was drawn for the treatment and the control groups. Some of the data reported herein are based on a sub-sample of the student population. Three school districts and fifteen classrooms of pupils participated in the study. Six classes of sixth grade students and nine classes of eighth grade students, totaling approximately 450 students, were involved in the evaluation phase of the study.

The career simulation project with sixth and eighth grade students is a developmental program. The leadtime of the project was decreased when final approval for the project was not received until ten weeks after the proposed beginning date. This necessitated collapsing of time periods allocated for development and evaluation. As the project was designed to coincide with the school calendar, adjustments were not easily made. It was thus expected that the design, development, and evaluation would not be conducted as smoothly as might otherwise have been possible. Another difficulty arose when a change of staff necessitated assignment of new personnel to the project.

Development

The career simulation materials from the previous year (HRD-131-65) were revised and refined to make the exercises practical for use with sixth and eighth grade students. The teacher's manual was revised extensively and the major refinements included changes in the profiles or scenarios and in the yearend summary questions. To increase the interest level and serve as a motivator, pictures were used to illustrate each of the four eight-page profiles. Immediate involvement and interest through some identification with a fictitious person was a motivation for learning as well as a basic feature of the game.

During the development and modification of the Life Career Game materials, the principal investigators used structured observation guides in the field test classrooms, and solicited reactions from participating teachers and students to evaluate the materials with respect to the field test objectives. Based on the results of the field tests, adjustments and modifications were made in the materials before final copy was produced.

As a reinforcer of significant learnings, yearend summary questions were incorporated into the activities of the game. For students who grasped the strategy, the yearend questions confirmed their procedure of awareness. For other students these questions opened alternatives for discussion. Numerical spinners, instructions in the player's manual, and instructions and descriptive material in the teacher's manual were materials developed.

The Research Phase

The Sample

The following criteria was used to determine which school districts would participate in the project:

1. All school districts would be located in San Diego County.

2. Only those schools which expressed an interest and were willing to participate were to be included in the project.

3. Classes selected to participate would be representative of the total school population of the participating district.

Sample Selection

Selected school districts in San Diego County were provided the opportunity to participate in the evaluation phase of this study. The names of sixth and eighth grade teachers selected to participate were listed according to their respective grade levels, and grouped as follows: For the sixth grade, three Control groups and three Treatment groups; for the eighth grade, three Control groups, three Treatment-One groups, and three Treatment-Two groups. (Owing to special circumstances related to the availability and use of Treatment-Two materials, the latter three groups were selected from elementary districts contained in the Grossmont Union High School District.) Each group (or class) consisted of approximately thirty pupils.

Control/Treatment Plan

Control groups at both the sixth and eighth grade levels received the usual curriculum program at their respective levels. The three sixth grade Treatment groups and the three eighth grade Treatment-One groups were given the special career simulation materials adapted to their respective levels. The three eighth grade Treatment-Two groups were given the "Planning Your Future" unit on career development. Pretest and posttest treatment criterion measures were administered to all groups.

Three classrooms of sixth grade students and three classrooms of eighth grade students served as the Treatment groups. Three classrooms of sixth grade and three of eighth grade served as Control groups. For the eighth grade only three classes of students utilized the Planning Your Future materials and served as a comparison group receiving a different treatment.

Students in the career simulation treatment groups played the Life Career Game for varying time periods. One treatment group at both the sixth and eighth grade levels completed two profiles while the remaining treatment groups completed one profile. The time required to complete one profile varied from ten to twenty hours. The students in the Planning Your Future treatment groups utilized these materials as part of a semester course but more specifically for a period of seven weeks. The Control groups participated in the regular curriculum for comparable periods of time.

All groups were administered pretests and posttests. The pretest and posttest scores were compared and tested for significance.

Preparation of Teachers

Teachers who were selected to participate were given support by their building principals and the Deputy Superintendent in one district. Of the three teachers of experimental groups in sixth grade all were eager to participate and each followed through with the assignment. Two of the three eighth grade teachers were interested and enthusiastic about participation. The third eighth grade teacher wanted to participate but had conflicts at meeting times and asked to be replaced. Since the project had moved to a point where replacement was difficult, one of the other eighth grade teachers agreed to use two of his classes instead of one. The Planning Your Future material is part of the regular eighth grade curriculum of the participating districts. The teacher was most cooperative and collected pretest and posttest data on three of his classes.

A week before the material was to be introduced in the classroom, the principal investigator met with teachers using the simulation materials. The morning meeting was used to acquaint the teachers with the materials. The game was played to give the teachers a feel for the game and to give them the idea of the role of the teacher in this experience. The research design was discussed and the materials and instruments distributed.

In classes where the game was critiqued carefully and considerable discussion arose the game served to trigger learning experiences rather than be the instrument of learning alone. Meaningful discussion took a considerable time portion of some of the classes. The daily scheduling of the game was left to the discretion of the teachers. Two of the sixth grade teachers used one-hour time blocks while one teacher used two-hour time blocks. The eighth grade classes were more restricted by the 55-minute class periods.

Measuring Instruments

Three basic instruments were used in the collection of data:

1. A 10-item questionnaire on vocational insightfulness adapted from the "Vocational Development Inventory" originally constructed by John O. Crites at the University of Iowa. The ten items were chosen as the most discriminating between the upper and lower quartiles on the previous year's investigation with eighth grade students. The original instrument produced by Crites contained sixty items to be answered on a

True-False basis. Since the ten most discriminating items were correctly marked as "False," three were arbitrarily reworded to be correctly answered as "True." Also, instead of a simple True-False dichotomous answer, a five-step scaled response form was devised allowing the subject to respond to one of the following five alternatives: DEFINITELY TRUE - PROBABLY TRUE - UNDECIDED - PROBABLY FALSE - DEFINITELY FALSE. It was realized that taking the ten most discriminating items out of their original context, arbitrarily revising three to be correctly answered as "True" rather than "False," and introducing a five-step scaled response option was introducing variables not present in the previous year's administration of Crite's Inventory. In effect, a new questionnaire had been constructed, building on the empirical results of previous use.

2. A three-item situational question which asked the subject to distribute a five-hour after-school time block among three categories: (1) leisure time; (2) job or chore activity; and (3) studying and homework.

3. An adaptation of Osgood's semantic differential scale devised to obtain ratings on various concepts. This consisted of ten pairs of polar adjectives (see Appendix) rating such concepts as SCHOOL, GOING TO HIGH SCHOOL, AFTER SCHOOL, MY FUTURE, STUDYING, PART-TIME WORK, GRADES, HELPING AT HOME, and two descriptive portraits of "students" named "JOHN" and "SANDRA," respectively. The sixth graders responded to only three of these (SCHOOL, GRADES, and MY FUTURE) and the eighth graders responded to all ten.

Data Analysis

In general, unless otherwise noted, the t-test for a statistically significant difference between two sample means was the basis for reaching conclusions about differences appearing in the data. The exceptions included: (1) Rank order correlation coefficients used to describe the relationship patterns between Before and After testing within the various Control or Treatment groups; and (2) Binomial Probability Test (Table) to determine the probability of directional shifts between Before and After testing, such that all (or nearly all) shifts on the After test would occur in the same (positive or negative) direction on the ten semantic differential scales.

One sixth and one eighth grade classroom of the Life Career Game treatment groups completed a second profile. These groups completed the post criterion measures at the termination of the first profile and again after completing the second profile. This design was implemented to assess the effect on the evaluation criteria of varying the treatment length. An analysis of the data did not reveal any significant differences between the scores on the criterion measures at the two time periods, and the scores obtained after the groups had completed one profile were pooled with the scores for the other treatment groups for the other phases of data analysis.

In analyzing the data, sub-samples of ten girls and ten boys, respectively, were drawn at random from each of the Control and Treatment groups, by grade level. This greatly reduced the work load of data analysis without seriously compromising the validity of the findings. The assumption

was made, on the advice of a consultant from the University of California at Santa Barbara, that differences of a false positive or false negative nature that would otherwise have been correctly identified by using the entire pool of data would likely be of an educationally insignificant magnitude. In other words, if a real difference in the data could not be picked up in sub-samples of ten subjects, it was not likely to be educationally important.

CHAPTER III

RESULTS AND DISCUSSION

Results

The results will be presented separately for each of the two grade levels investigated.

I. EIGHTH GRADE DATA

A. 10-Item Questionnaire on Vocational Insightfulness

Table I presents the findings for the groups investigated. A score of 1.00 would represent Absolutely True and a score of 5.00 would represent Absolutely False. On this basis the following findings are reached:

1. All of the shifts are at the chance level. There were no statistically significant differences within any of the groups when comparing Before and After mean scores.

2. There were the following inconsistent trends:

   a. The control group improved on the True score but showed no change on the False score.

   b. The Planning Your Future group improved on the True score but worsened on the False score.

TABLE I

A Comparison of the Mean True and Mean False Scores for Each of Three Comparison Groups on Before and After Testing.

Group	Item Category	Before Mean	After Mean	Significance Level
CONTROL	True	2.75	2.60	N.S.
	False	3.13	3.13	N.S.
PLANNING YOUR FUTURE	True	2.86	2.74	N.S.
	False	3.29	3.21	N.S.
CAREER GAMES	True	2.75	2.72	N.S
	False	3.13	3.15	N.S.

B. Distribution of Five Hours

Table II presents the distribution of the after-school use of five hours for the three groups under investigation, comparing results for Boys and Girls within each group on a Before and After basis. In interpreting these data, it is important to realize that the three groups were not comparable to begin with, making between-group comparisons difficult. (For example, there is a statistically significant difference between the Control and the Career Games groups initially.) None of the within-group comparisons between Before and After scores were statistically significant. There was a trend for both the Planning Your Future and Career Games groups to increase hours of study over the Control group over a period of time. For the Planning Your Future group the increase was at the expense of time for part-time work and chores; for the Career Games group the increase was at the expense of leisure time.

TABLE II

A Comparison of the Mean Distribution of Five Hours Among Three Uses for Each of Three Comparison Groups.

		"Leisure"			"Working/Helping"			"Studying"		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
CONTROL	Before	1.70	1.95	1.82	1.48	1.15	1.32	1.82	1.90	1.86
	After	1.55	1.65	1.60	1.55	1.60	1.58	1.90	1.75	1.88
PLANNING YOUR FUTURE	Before	2.10	2.45	2.28	1.72	1.48	1.60	1.18	1.08	1.12
	After	2.50	2.00	2.25	1.25	1.55	1.40	1.25	1.45	1.35
CAREER GAMES	Before	2.52	2.00	2.26	1.50	1.58	1.54	1.02	1.42	1.22
	After	2.20	1.65	1.92	1.35	1.50	1.42	1.45	1.85	1.65

C. Concept analysis using the Semantic Differential Scaling Technique

In general the semantic differential scaling technique was not used to map a semantic space as originally devised by Osgood, et. al. Instead, it was used simply as a seven-point scale yielding rating profiles and scores on ten scales anchored by polar adjective pairs. The analysis of the data is mechanically straightforward, as with any quantified scale information. The difficulty arises in the inferences to draw from these outcomes.

1. The first analysis involved rank order correlations to assess concept stability within groups on a Before and After basis. In other words, the ten concepts were ranked in order of how relatively positive they were perceived by the subjects in each of the three groups by sex. Table III presents the pattern of intercorrelations obtained. In general, Section A indicates that time emerges as the principal factor underlying stability. Where the time lapse between Before and After testing was greatest (Planning Your Future) the correlations tended to be lowest; where the time lapse was least (Control Group) the correlations tended to be highest. A closer look at the data, however, indicates that this is clearly true in the case of the boys but inconsistent in the case of the girls.

TABLE III

Rank Order Correlation Coefficients for the Three Comparison Groups:
A - Before-After Intercorrelations for Boys and for Girls, Respectively;
B - Boys-Girls Intercorrelations for the Before and After Testing, Respectively.

	A		B	
Group	Boys Before-After	Girls Before-After	Before Boys-Girls	After Boys-Girls
CONTROL	.98	.89	.75	.76
CAREER GAMES	.88	.92	.94	.85
PLANNING YOUR FUTURE	.78	.85	.99	.72

Section B indicates that only in the case of the Control group did the ranking of the ten concepts remain unchanged between Boys and Girls for the Before and After testing, respectively (.75 and .76). Increasing differences on the After testing for both the Career Games and Planning Your Future conditions (.94 to .85 and .99 to .72, respectively) suggests differential shifts between boys and girls as a result of the treatment condition.

2. A second analysis comparing gain scores between the three groups was undertaken, since the pretest information indicated that the three comparison groups were not comparable initially. Table IV summarizes these data. Of the 60 gain score comparisons thus generated, only three were significant at the .05 level of confidence--a finding which itself is at a chance level. In other words, out of 60 comparisons, three would ordinarily be significant at that level of confidence as a chance occurrence, by definition. With this in mind, Table IV shows that Career Game Boys became significantly more negative to "John" and to "Sandra," Planning Your Future Girls became significantly more positive to "Sandra."

TABLE IV

Net Gain Scores (After Score minus Before Score) on the Ten Concepts Rated on the Semantic Differential Device for Boys and Girls in Each of the Three Comparison Groups.

Concept	CONTROL		CAREER GAMES		PLANNING YOUR FUTURE	
	Boys	Girls	Boys	Girls	Boys	Girls
School	0	- .60	- .40	- .70	3.60	-2.30
Going to High School	-1.00	1.00	3.50	3.30	3.50	5.90
Grades	- .30	-1.10	4.60	5.40	2.80	-3.30
Studying	-1.80	-1.40	4.90	3.50	4.90	1.30
After School	-2.90	-3.90	-4.50	-4.80	-6.30	-2.10
Helping At Home	-2.60	1.60	-2.50	2.20	.50	1.40
Part-Time Work	1.80	3.50	3.90	- .20	2.40	-3.00
My Future	-1.00	1.00	1.30	.00	.50	.00
"John"	-3.50	2.90	-10.10*	-4.30	-3.60	-1.30
"Sandra"	-2.30	-2.40	-10.10*	-6.10	-1.20	8.90*

Note: Minus gain scores represent an increase in perceived negative value of the concept; positive (no sign shown) gain scores represent an increase in perceived positive value of the concept.

*Statistically significant gain scores at the 5% level of confidence.

When gain score comparisons were made strictly on the basis of Control, Planning Your Future, or Career Games conditions, using total mean scores across all ten concepts, no statistically significant differences were found within groups. As a general trend, Control Boys

became more negative; Planning Your Future Boys, as well as Girls, became more positive; and Career Games Boys became more negative. Again, the groups were found not to be comparable initially, with statistically significant differences between the Control and Career Games groups appearing on the Before testing.

3. Gain scores on the semantic differential were compared in another way: for each concept the ten-scale profiles were examined to find if there were statistically significant shifts among all ten scales, such that the gain scores were all, or nearly all, in either a positive or negative direction, respectively. In other words, for a given concept, did the gain score on each of the ten scales move consistently in the same direction as the other scales, with no more than one exception? By using a Binomial Probability Test table, it can be determined that such trends are significant statistically, even though none of the individual scales reach significance as determined by a t-test. Table V summarizes the results.

TABLE V

Concepts for which there was a significant Positive or Negative shift on the After Testing on all, or nearly all, the Ten Semantic Differential scales.

Group	Sex	Concept	Shift Sign	Level of Significance
CONTROL	Girls	Part-Time Work	Positive	.35
PLANNING YOUR FUTURE	Girls	Going to High School	Positive	.011
		Grades	Negative	.011
		Part-Time Work	Negative	.035
		Sandra	Positive	.002
	Boys	Part-Time Work	Positive	.001
		Studying	Positive	.02
		After School	Negative	.011
CAREER GAMES	Girls	Grades	Positive	.011
		After School	Negative	.011
		Studying	Positive	.02
		John	Negative	.011
		Sandra	Negative	.001
	Boys	Grades	Positive	.02
		After School	Negative	.011
		Studying	Positive	.035
		John	Negative	.02
		Sandra	Negative	.001

The findings presented in Table V are interesting in this respect:

a. The one significant finding (.035 level) for the Control group out of twenty comparisons is nearly a chance finding itself, by definition.

b. In both the Planning Your Future and the Career Games groups, the two treatment conditions, significant shifts have taken place over the Control group.

c. The shifts in the Planning Your Future group are inconsistent between Boys and Girls, whereas the shifts observed in the Career Games groups are identical, suggesting a consistent effect on Boys and Girls by the Game experience.

II. SIXTH GRADE DATA

A. 10-Item Questionnaire on Vocational Insightfulness

Table VI summarizes the findings for this instrument. The following observations can be made: (1) none of the shifts are statistically significant; (2) in effect, the Control group shows the tendency to change in both True and False mean scores, whereas the Career Games group is remarkably stable.

TABLE VI

A Comparison on the 10-Item Vocational Insight Questionnaire of the Mean True and Mean False Scores for Each of Two Comparison Groups on Before and After Testing. Sixth Grade.

Group	Item Category	Before Mean	After Mean	Significance Level
CONTROL	True	2.6	3.4	N.S.
	False	2.6	3.1	N.S.
CAREER GAMES	True	2.6	2.6	N.S.
	False	3.4	3.4	N.S.

B. Distribution of Five Hours

Table VII presents the distribution of the five-hour after-school time block for the two comparison groups, based on Boy-Girl, Before-After breakdowns. It can be noted: (1) the Control group shows no notable changes; (2) the Career Games group, on the other hand, evidences shifting around. The Boys show a trend away from Leisure Time toward Studying, although this finding did not reach a satisfactory level of confidence to be significant.

TABLE VII

A Comparison of the Mean Distribution of Five Hours Among Three Uses for Each of Two Comparison Groups. Sixth Grade.

Group		"Leisure"			"Working/Helping"			"Studying"		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
CONTROL	Before	2.30	1.85	4.15	1.35	1.65	3.00	1.35	1.50	2.85
	After	2.05	1.65	3.70	1.45	1.60	3.05	1.50	1.75	3.25
CAREER GAMES	Before	2.70	1.62	4.32	.78	1.78	2.55	1.52	1.60	3.12
	After	2.05	1.85	3.90	.72	1.20	1.92	2.22	1.45	3.68

C. Concept Analysis Using the Semantic Differential Technique

Analysis of these data for the sixth grade was more limited than in the case of the eighth grade, since only three concepts were involved. No intercorrelational comparisons were appropriate. Furthermore, an analysis of total gain scores for the three concepts for Boys and Girls in each of the two comparison groups yielded no statistically significant shifts. Table VIII presents these findings, allowing the observation of a trend toward increased negativity which, however, failed to reach a satisfactory level of confidence to be significant.

TABLE VIII

Net Gain Scores (After Score minus Before Score) on the Three Concepts Rated on the Semantic Differential Device for Boys and Girls in Each of the Two Comparison Groups. Sixth Grade.

Concept	CONTROL		CAREER GAMES	
	Boys	Girls	Boys	Girls
School	-.36	.08	.11	-.62
Grades	-.07	.10	-.57	-.22
Future	-.52	-.06	.11	-.40

Note: Minus gain scores represent an increase in perceived negative value of the concept; positive (no symbol shown) gain scores represent an increase in perceived positive value of the concept.

As in the case of the eighth grade data, a second analysis of gain scores was undertaken--this time using the ten-scale profiles for each

individual concept and looking for shifts in a common direction in all ten scales, with no more than one exception. Table IX summarizes the findings for this analysis. The brevity of information in the table (compared to Table V for the eighth grade data) is largely a function of three, rather than ten, concepts and only two, instead of three, comparison groups.

TABLE IX

Concepts which evidenced Statistically Significant Profile Shifts on the Ten Semantic Differential Scales Indicating either Consistent, Positive, or Negative Shifts on the After Testing. Sixth Grade.

Group	Sex	Concept	Shift Sign	Level of Significance
CONTROL	None	None	None	None
CAREER	Girls	School	Negative	.001
GAMES	Boys	Grades	Negative	.011

Discussion

In general, this study was restricted by at least three factors. Comparison groups were not always comparable on the pretest instruments, a problem largely attributal to the selection of each group (Control, Career Games, or Planning Your Future) from classes within school districts unexpectedly differing in terms of pupil interests and achievement levels. A second restriction was the unequal time period between the pretest and posttest for the various comparison groups. While this difference came about unintentionally, it produced information suggesting a simple relationship to a time function in the stability-of-concept perception. The third limiting factor was the necessity of collecting the posttest data at the end of the school year. Keeping these three restrictions in mind, the following discussion is presented:

A. 10-Item Questionnaire on Vocational Insightfulness

Surprisingly, no statistically significant differences emerged in either the sixth or eighth grade groups. What trends did emerge seemed to have no consistency, with one notable exception. For both grade levels, the Career Games groups obtained nearly identical scores on both the Before and After testing for this instrument. In effect, it suggests that the game experience actually stabilized their initial reactions to this Questionnaire. This would not be expected if one hypothesizes that the Career Game experience should modify student's perception of vocational choice. Since the sampling composition of sixth and eighth graders in this treatment category varied, it is not likely that a sampling bias is at work to account for this stability.

B. Distribution of Five Hours

Though no statistically significant patterns emerged, a general trend to increase hours of study on the posttest was evident. Unfortunately, it is not possible to reach a firm conclusion that this trend is a probable consequence of either treatment condition. Table X summarizes these trends, allowing the observation that five out of the six treatment group comparisons increased the hours of study on the posttest while three out of the four control group comparisons did likewise.

TABLE X

Mean Changes in Hours of Study (After minus Before)for All Groups Investigated.

Group	Grade 6		Grade 8	
	Boys	Girls	Boys	Girls
CONTROL	+.15	+.25	+.08	-.15
CAREER GAMES	+.70	-.15	+.43	+.43
PLANNING YOUR FUTURE			+.08	+.37

Note: Plus signs denote an increase in Hours of Study on the posttest; minus signs denote a decrease.

C. Concept Analysis Using the Semantic Differential Scaling Technique

In may ways this instrument was both fruitful and frustrating at the same time. It yielded the only important statistically significant differences between the various comparison groups, yet these tended to defy interpretation. In other words, faced with the significant findings, it was difficult to reach any firm conclusions about what they meant or how they could be usefully applied in subsequent situations.

Clearly, in the case of the eighth grade data, two variables appear to account for changes in either how positively or how negatively the ten concepts are perceived compared to each other between pretest and posttest measurements. One variable is time: As time increases between pretesting and posttesting, more changes in the relative values of these concepts are observed. This suggests a simple decay function over time influencing the reliability of the rater. The second variable was treatment, although this was a complicated relationship. Table III-B indicated that the Control group showed no apparent change between Boys and Girls when pretest correlation coefficients were compared to posttest correlation coefficients. The same comparisons for the two treatment conditions revealed more shifting around, such that Boy-Girl comparisons were quite high on the pretest but fell off

on the posttest. This suggests that the treatment condition was having a differential effect on the sexes. Ironically, the Control group correlation coefficients, though unchanging, were among the lowest of all the coefficient comparisons. This lack of comparability between the Control group on the one hand and the two treatment groups on the other remains a serious obstacle to the clear interpretation of the findings.

Shifts in terms of total gain scores (Table IV for the eighth grade and Table VIII for the sixth grade) allow some interesting speculation:

1. First of all, out of the sixty gain score comparisons, three were significant at the 5 percent level of confidence--itself, a chance finding.

2. Two of these three significant findings were obtained by Boys in the eighth grade Career Games group. There were increasingly more negative shifts in their perception of "JOHN" ("John is the kind of person who does just about what he wants. Sometimes he does his school work and sometimes he doesn't, depending on how he feels at the time.") and "SANDRA" ("Sandra is the kind of person who seldom thinks about the future. She feels there will be plenty of time after she's grown up to decide what she wants to do.") This finding suggests that boys in this group were impressed by the apparently unsound implications of these two descriptions. Girls in the Career Games group were moving in this direction also, though they did not reach significance. Girls in the Planning Your Future group, on the other hand, reached significance in a shift which perceived "SANDRA" as more positive on the posttest.

3. In the eighth grade data, Boys and Girls in both treatment groups consistently perceived GOING TO HIGH SCHOOL and STUDYING as more positive on the posttest; in contrast, they consistently perceived AFTER SCHOOL and "JOHN" more negatively on the posttest. The only consistent finding for the sixth grade data was an increasingly more negative perception of GRADES by both Boys and Girls in the Career Games group.

   The profile analysis of consistent shifts in either a more positive or more negative direction on the ten-scale Semantic Differential device again indicated that things were happening to all treatment groups that were not reflected in the Control groups of either the sixth or eighth grade data. (See Tables V and IX.) While no consistent pattern emerged for the eighth grade Planning Your Future group or the sixth grade Career Games group, the eighth grade Career Games group revealed the remarkable identity of shifts to the same five concepts for both the Boys and Girls. This suggests that the Career Game experience somehow had a more stabilizing effect than the Planning Your Future unit. Again, the practical implication of this fact is difficult to tie down.

In terms of the four hypotheses stated on page 6 of this report, none were supported at a statistically significant level. While this may support the negative finding of no differences between the treatment or control groups on the criteria selected, the investigators feel that the rival hypothesis of insensitive instrumentation is equally likely. The simulation game appeared to be more enjoyable and stimulating than either the Planning Your Future or the Control group situations. If this subjective impression has any value, however, the instruments used in this study were too crude to pick up the difference this involved.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In summary, this study attempted to measure differences in knowledge and attitudes among sixth and eighth grade students as a result of their involvement (or lack of involvement) in a career simulation game. No educationally significant differences of a clear and direct nature were found. Where statistically significant differences were observed, it was difficult to interpret their educational implications in practical terms. For what they are worth, the following indications were noted:

1. There were no significant shifts in knowledge and understanding of vocational information as assessed by a 10-item instrument adapted from Crites' "Vocational Development Inventory" (University of Iowa).

2. There was a statistically insignificant trend for students to allow more hours for study (compared with two other non-academic alternatives) in a hypothetical self-planning situation on the posttest. While this trend was true for control groups as well as treatment groups it was larger in the latter case.

3. Among the many statistically significant findings for the semantic differential rating of concepts, the one strong pattern was the fact that for the Eighth Grade Career Simulation group, boys and girls changed consistently in the same direction on the same five concepts. This suggests a stabilizing effect of the game on attitudes at this grade level not observed in any of the other experimental conditions. The positive shifts were to the two concepts "Grades" and "Studying." The negative shifts were to the three concepts "After School," "John" (an inconsistent student), and "Sandra" (a carefree student).

Recommendations for future studies in this area include the following:

1. That students in the control and treatment groups be more nearly comparable than was the case in this investigation. Random selection of districts, random selection of subjects, and random assignment of treatment conditions would provide the strongest selection procedure, although it was not possible to achieve in the present study.

2. That the time intervals in all cases be kept constant, unless this variable is to be deliberately made independent.

3. Avoid the coincidence of data collection with critical periods such as the beginning or end of the year, vacation periods, or other atypical events which introduce irrelevant but influential effects.

4. Collect the data originally in keeping with the sub-sample $\underline{n}$ of ten cases, plus a buffer number to offset attrition. In other words, keep down the number of pre- and posttestings by only testing small, random (or stratified random) samples in the first place.

5. Introduce a structured interview technique to probe more directly into the knowledge and attitude areas.

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APPENDIX: INSTRUMENTATION

NAME _____

DATE _____

SCHOOL _____

TEACHER _____

GRADE _____

Circle one: BOY GIRL

The work presented or reported herein was performed pursuant to a grant from the U. S. Office of Education, Department of Health, Education and Welfare.

10-ITEM QUESTIONNAIRE ON VOCATIONAL INSIGHTFULNESS

	DEFINITELY TRUE	PROBABLY TRUE	UNDECIDED	PROBABLY FALSE	DEFINITELY FALSE
1. I don't know what courses to take or which occupation to choose.					
2. A consideration of what you like to do is more important than what you are good at in choosing an occupation.					
3. Choose an occupation in which you can someday become famous.					
4. Choose an occupation which gives you a chance to help others.					
5. I know quite a bit about the requirements of occupations.					
6. I plan to follow the occupation my parents suggest.					
7. Working in an occupation is much like going to school.					
8. I really can't find any occupation that has much appeal to me.					
9. I have a pretty good idea of what working will be like.					
10. As far as choosing an occupation is concerned, something will come along sooner or later.					

DISTRIBUTION OF FIVE HOURS

Imagine that it is a typical school day and you have just come home from school. Taking time out for dinner, suppose you will have left about five hours before bedtime to do whatever you want or whatever has to be done. How would you plan your time? (You may divide the hours into half-hours or quarter-hours if you want.)

_____ Leisure time (whatever you want or like to do).

_____ Working at a part-time job or helping out around the house or yard.

_____ Studying and homework related to school.

What would you like to be when you grow up?

_____

SCHOOL

EASY	____ :	____ :	____ :	____ :	____ :	____ :	____	DIFFICULT
SLOW	____ :	____ :	____ :	____ :	____ :	____ :	____	FAST
HAPPY	____ :	____ :	____ :	____ :	____ :	____ :	____	SAD
EMPTY	____ :	____ :	____ :	____ :	____ :	____ :	____	FULL
GO	____ :	____ :	____ :	____ :	____ :	____ :	____	STOP
WORK	____ :	____ :	____ :	____ :	____ :	____ :	____	FUN
OPEN	____ :	____ :	____ :	____ :	____ :	____ :	____	CLOSED
RICH	____ :	____ :	____ :	____ :	____ :	____ :	____	POOR
BORING	____ :	____ :	____ :	____ :	____ :	____ :	____	INTERESTING
CLEAR	____ :	____ :	____ :	____ :	____ :	____ :	____	CONFUSING

GOING TO JUNIOR HIGH

EASY	____ :	____ :	____ :	____ :	____ :	____ :	____	DIFFICULT
SLOW	____ :	____ :	____ :	____ :	____ :	____ :	____	FAST
HAPPY	____ :	____ :	____ :	____ :	____ :	____ :	____	SAD
EMPTY	____ :	____ :	____ :	____ :	____ :	____ :	____	FULL
GO	____ :	____ :	____ :	____ :	____ :	____ :	____	STOP
WORK	____ :	____ :	____ :	____ :	____ :	____ :	____	FUN
OPEN	____ :	____ :	____ :	____ :	____ :	____ :	____	CLOSED
RICH	____ :	____ :	____ :	____ :	____ :	____ :	____	POOR
BORING	____ :	____ :	____ :	____ :	____ :	____ :	____	INTERESTING
CLEAR	____ :	____ :	____ :	____ :	____ :	____ :	____	CONFUSING

AFTER SCHOOL

EASY	____ :	____ :	____ :	____ :	____ :	____ :	____	DIFFICULT
SLOW	____ :	____ :	____ :	____ :	____ :	____ :	____	FAST
HAPPY	____ :	____ :	____ :	____ :	____ :	____ :	____	SAD
EMPTY	____ :	____ :	____ :	____ :	____ :	____ :	____	FULL
GO	____ :	____ :	____ :	____ :	____ :	____ :	____	STOP
WORK	____ :	____ :	____ :	____ :	____ :	____ :	____	FUN
OPEN	____ :	____ :	____ :	____ :	____ :	____ :	____	CLOSED
RICH	____ :	____ :	____ :	____ :	____ :	____ :	____	POOR
BORING	____ :	____ :	____ :	____ :	____ :	____ :	____	INTERESTING
CLEAR	____ :	____ :	____ :	____ :	____ :	____ :	____	CONFUSING

MY FUTURE

EASY	____	____	____	____	____	____	____	DIFFICULT
SLOW	____	____	____	____	____	____	____	FAST
HAPPY	____	____	____	____	____	____	____	SAD
EMPTY	____	____	____	____	____	____	____	FULL
GO	____	____	____	____	____	____	____	STOP
WORK	____	____	____	____	____	____	____	FUN
OPEN	____	____	____	____	____	____	____	CLOSED
RICH	____	____	____	____	____	____	____	POOR
BORING	____	____	____	____	____	____	____	INTERESTING
CLEAR	____	____	____	____	____	____	____	CONFUSING

STUDYING

EASY	____	____	____	____	____	____	____	DIFFICULT
SLOW	____	____	____	____	____	____	____	FAST
HAPPY	____	____	____	____	____	____	____	SAD
EMPTY	____	____	____	____	____	____	____	FULL
GO	____	____	____	____	____	____	____	STOP
WORK	____	____	____	____	____	____	____	FUN
OPEN	____	____	____	____	____	____	____	CLOSED
RICH	____	____	____	____	____	____	____	POOR
BORING	____	____	____	____	____	____	____	INTERESTING
CLEAR	____	____	____	____	____	____	____	CONFUSING

PART-TIME WORK

EASY	____ :	____ :	____ :	____ :	____ :	____ :	____	DIFFICULT
SLOW	____ :	____ :	____ :	____ :	____ :	____ :	____	FAST
HAPPY	____ :	____ :	____ :	____ :	____ :	____ :	____	SAD
EMPTY	____ :	____ :	____ :	____ :	____ :	____ :	____	FULL
GO	____ :	____ :	____ :	____ :	____ :	____ :	____	STOP
WORK	____ :	____ :	____ :	____ :	____ :	____ :	____	FUN
OPEN	____ :	____ :	____ :	____ :	____ :	____ :	____	CLOSED
RICH	____ :	____ :	____ :	____ :	____ :	____ :	____	POOR
BORING	____ :	____ :	____ :	____ :	____ :	____ :	____	INTERESTING
CLEAR	____ :	____ :	____ :	____ :	____ :	____ :	____	CONFUSING

GRADES

EASY	____	____	____	____	____	____	____	DIFFICULT
SLOW	____	____	____	____	____	____	____	FAST
HAPPY	____	____	____	____	____	____	____	SAD
EMPTY	____	____	____	____	____	____	____	FULL
GO	____	____	____	____	____	____	____	STOP
WORK	____	____	____	____	____	____	____	FUN
OPEN	____	____	____	____	____	____	____	CLOSED
RICH	____	____	____	____	____	____	____	POOR
BORING	____	____	____	____	____	____	____	INTERESTING
CLEAR	____	____	____	____	____	____	____	CONFUSING

HELPING AT HOME

EASY	____ :	____ :	____ :	____ :	____ :	____ :	____	DIFFICULT
SLOW	____ :	____ :	____ :	____ :	____ :	____ :	____	FAST
HAPPY	____ :	____ :	____ :	____ :	____ :	____ :	____	SAD
EMPTY	____ :	____ :	____ :	____ :	____ :	____ :	____	FULL
GO	____ :	____ :	____ :	____ :	____ :	____ :	____	STOP
WORK	____ :	____ :	____ :	____ :	____ :	____ :	____	FUN
OPEN	____ :	____ :	____ :	____ :	____ :	____ :	____	CLOSED
RICH	____ :	____ :	____ :	____ :	____ :	____ :	____	POOR
BORING	____ :	____ :	____ :	____ :	____ :	____ :	____	INTERESTING
CLEAR	____ :	____ :	____ :	____ :	____ :	____ :	____	CONFUSING

John is the kind of person who does just about what he wants. Sometimes he does his school work and sometimes he doesn't, depending on how he feels at the time.

EASY	____	: ____	: ____	: ____	: ____	: ____	: ____	DIFFICULT
SLOW	____	: ____	: ____	: ____	: ____	: ____	: ____	FAST
HAPPY	____	: ____	: ____	: ____	: ____	: ____	: ____	SAD
EMPTY	____	: ____	: ____	: ____	: ____	: ____	: ____	FULL
GO	____	: ____	: ____	: ____	: ____	: ____	: ____	STOP
WORK	____	: ____	: ____	: ____	: ____	: ____	: ____	FUN
OPEN	____	: ____	: ____	: ____	: ____	: ____	: ____	CLOSED
RICH	____	: ____	: ____	: ____	: ____	: ____	: ____	POOR
BORING	____	: ____	: ____	: ____	: ____	: ____	: ____	INTERESTING
CLEAR	____	: ____	: ____	: ____	: ____	: ____	: ____	CONFUSING

Sandra is the kind of person who seldom thinks about the future. She feels there will be plenty of time after she's grown up to decide what she wants to do.

EASY	____	____	____	____	____	____	____	DIFFICULT
SLOW	____	____	____	____	____	____	____	FAST
HAPPY	____	____	____	____	____	____	____	SAD
EMPTY	____	____	____	____	____	____	____	FULL
GO	____	____	____	____	____	____	____	STOP
WORK	____	____	____	____	____	____	____	FUN
OPEN	____	____	____	____	____	____	____	CLOSED
RICH	____	____	____	____	____	____	____	POOR
BORING	____	____	____	____	____	____	____	INTERESTING
CLEAR	____	____	____	____	____	____	____	CONFUSING